

CLAIMS

1. A method for automatic modeling a process control system, whereby elements of a user interface are arranged in a tree structure reflecting the topography of the elements in the process control system, whereby each element is assigned to at least one input window having a plurality of attributes for setting and/or monitoring a target apparatus controllable in the process control system, whereby the current arrangement of the tree structure is stored as a project, and a list of all windows opened during the same current operation as well as their attributes are stored as an operating session, to thereby be able to restore the state of the elements when loading the process control system again.
2. The method according to claim 1, whereby a handling software is used to store the tree structure as well as the list of windows and their attributes, whereby the handling software further stores the position of the input windows during the current operation.
3. The method according to claim 2, whereby the handling software stores the communication status, indicating an online or offline status, respectively, for storing the state of the elements.
4. The method according to claim 2, whereby the handling software for storing the state of the elements stores the state of the associated user interface of the respective input windows.
5. The method according to claim 1, whereby only distinct communication links to distinct nodes of the complete project are selected to be restored.

6. The method according to claim 1, whereby the input windows for setting and monitoring the target apparatus provided by the elements in the project tree serve for display of measured values, for diagnosis or for parametrizing.
7. The method according to claim 1, whereby the current state of the input windows opened during operation of the process control system is transmitted to the handling software in a XML string.
8. The method according to claim 1, whereby the state of the input windows opened during operation of the process control system is queried and stored by conventional interface methods.
9. The method according to claim 1, whereby the projects and the associated states of the elements of the project are stored in project files.
10. The method according to claim 1, whereby session information is stored in the project files or references to the files including session information are stored.
11. The method according to claim 1, whereby upon opening the project it is verified whether session information is present, and if present, the last present view of the project with all opened dialogs is restored and all connections of the last session are restored.
12. The method according to claim 1, whereby a session manager manages a list of sessions and the names of the active sessions for each project and stores the latter in a non-volatile project directory.

13. The method according to claim 12, whereby the session manager offers a dialog during loading of a project, in which the names of all available sessions for a project are offered for selection.
14. A method for automatic modeling a process control system comprising at least one target apparatus, whereby elements of a user interface are arranged in a tree structure reflecting the topography of the elements in the process control system, whereby each element is assigned to at least one input window having a plurality of attributes for setting and/or monitoring the target apparatus controllable in the process control system, whereby a handling software stores the current arrangement of the tree structure as a project, a list of all windows opened during the same current operation as well as their attributes as an operating session, and the position and/or the communication status, indicating an online or offline status, respectively, of the user interface of a respective input window, to thereby be able to restore the state of the elements when loading the process control system again.
15. A process control system comprising a host PC and at least one target apparatus connected to the host PC via a bus system, whereby the process control system is adapted to be displayed in form of a tree structure on an input window, whereby the tree structure comprises nodes, each node providing at least one input window having a plurality of attributes for setting and/or monitoring a target apparatus assigned thereto, whereby a memory of the process control system is adapted to store the arrangement of the tree structure as a project, and a list of all windows opened during operation as well as their attributes as an operating session being automatically restorable during reloading of the process control system.
16. The process control system according to claim 15, whereby the memory is adapted to store the position of the input windows.

17. The process control system according to claim 15, whereby the memory is adapted to store the communication status, indicating an online or offline status, respectively, of the input window.
18. The process control system according to claim 15, whereby the memory is adapted to store the state of the user interface associated to respective input windows.
19. The process control system according to claim 15, whereby the memory is adapted to store several operating sessions for each project.
20. The process control system according to claim 15, whereby the system is adapted to be implementable permanently in a frame application.
21. The process control system according to claim 15, whereby the system is adapted to be implementable into the frame application as add-in.
22. The process control system according to claim 15, whereby the input windows are windows for visualizing measurement values obtained by the at least one target apparatus.
23. The process control system according to claim 15, whereby the input windows are windows for diagnosis messages.
24. The process control system according to claim 15, comprising a session manager.